

Hobbies

WEEKLY

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AN ATTRACTIVE GARDEN ARCHWAY

TO those readers who may not care for the rustic arch in their garden, the design illustrated, made from ordinary planed wood, may have some appeal. Painted a white or green colour, it would have a pleasing ap-

pearance, either at the entrance to the garden, or as a division between the flower and vegetable portions. Sizes of timbers used are given at the end of the article.

A front view of the framing is given at Fig. 1, also a side view. Dimensions are

shown, but if the arch is required wider, to more effectively straddle an existing path, it is an easy matter to increase the width of the archway as required.

Cut the vertical posts to length, and reduce the ends at top and bottom to form $\frac{3}{4}$ in. tenons, $1\frac{1}{2}$ ins. long, as at (A), except in the case of the outer posts, where no bottom tenons are required. The top bar is mortised for these tenons at correct distances apart, the mortises going right through. When fixing this top bar, which is cut from $1\frac{1}{2}$ ins. by $2\frac{1}{2}$ ins. wood, remember it is laid on the posts with its wider side downwards, to overhang the posts each side by $\frac{1}{4}$ in.

Grooved Crossbars

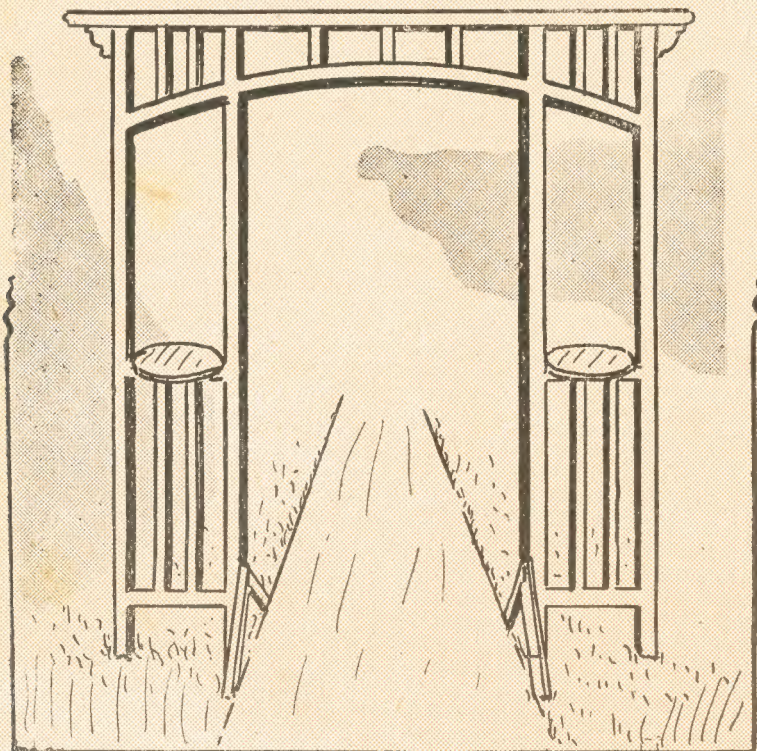
The middle crossbars are grooved into the posts, one each side, as in detail (B). These bars are reduced by $\frac{3}{4}$ in. at each end, and the posts grooved for them $\frac{3}{4}$ in. deep, then, when the bars are fitted in, a space between them of $\frac{1}{4}$ in. will be left, into which the vertical rails will fit.

The lower crossbars consist of a single one, to each pair of posts, these being at the front, no rear bars being wanted. Fit all at the respective distances up the posts given in the diagrams.

The inner posts are strutted to stiffen the archway against stresses of weather. The ground rails are cut to length and mortised in the centre to receive the posts. These mortises are cut $1\frac{1}{2}$ ins. deep, so do not quite go through the whole thickness.

Fixing the Posts

Fix the posts in with a thick lead paint, unless some waterproof glue is to



hand, in which case it could be used. Nail the struts to ground rail and trim them at their top ends to butt together against the posts, where they are again strongly nailed. The whole framework can now be glued and nailed together.

For the top curved rail strike a double arc of 2ins. thickness on a length of 1in. thick board, as at (D) in Fig. 2. This can be done with the old gadget of a length of string, tied to a nail and with a pencil tied to the opposite end. Alternatively,

rail at 6ins. down from the top of the arch, in the centre.

The vertical rails, introduced for an ornamental effect, are nailed to the curved rail at the rear. They are evenly spaced in each division. Underneath the top rail of the arch, a 1in. wide strip of wood is nailed along in each division, shown at (F) in Fig. 2, for nailing the vertical rails to at top.

The lower vertical rails are nailed between the horizontal bars, and then to the rear of the lower bar, as in detail sketch, Fig. 2. To the middle pair of bars a small shelf is nailed, cut to the shape and size given at (C). The structure can

To do this part of the job thoroughly, and unless it is done so, the life and stability of the arch may not be so

LIST OF TIMBER

Posts (4)—2ins. by 2ins. by 7ft. 8ins.
Top bar—1½ins. by 2½ins. by 6ft. 6ins.
Ground rails (2)—2ins. by 2ins. by 2ft. 0ins.
Horizontal bars and struts—17ft. of 1in. by 2in. wood.
Vertical rails—6ft. of ½in. by 1in. wood, perhaps cut from waste in board used for the curved rail.
Curved rail—6ft. of 1in. by 8in. board.
Remainder from spare wood available.

satisfactory as it should be, place the arch in position, and mark out with the spade the size of holes required to receive the strutted parts and the outer posts. Dig the necessary holes 1in. or 2ins. deeper than required and fill the bottom of the holes with flat stones to

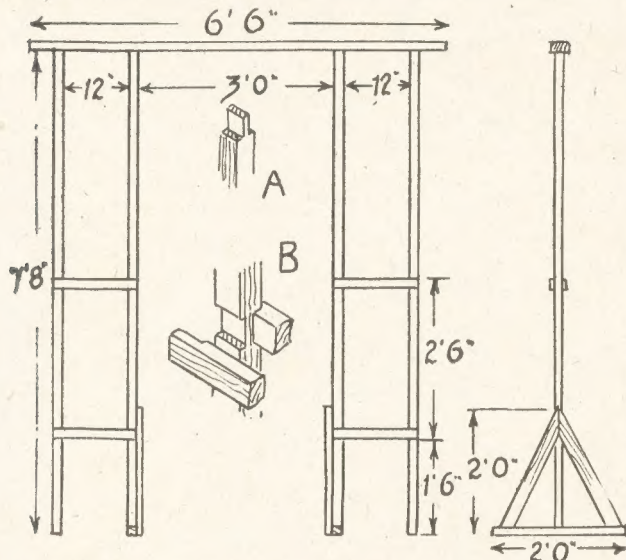


Fig. 1—Plan and side view, showing underground support parts

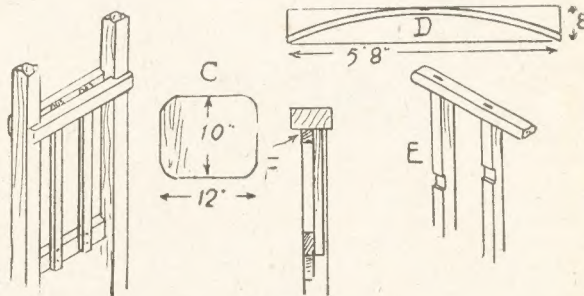


Fig. 2—Details of construction of various parts

a long flexible strip of thin wood could be bent to the arc, laid on the board, and a pencil drawn along it. In either case a clean sweeping curve is desirable for a good effect.

This curved rail is grooved at its rear, ½in. deep, where it passes over the posts, the posts themselves being grooved at the same spots, also, as shown at (E). The rail can then be nailed in flush with the outer surface of the posts. Fix the

be stiffened up with small corner brackets at the top, seen in the view of the finished arch. This completes the work of construction.

The arch is embedded in the ground to a depth of just 12ins., and the wood to this depth is thoroughly creosoted as a preservative against rot. The remainder can be painted the colour preferred. Let the paint thoroughly dry before erection.

provide a firm foundation for the posts to rest upon.

Drop the arch in, then fill up with dry earth, in which a number of small stones are mixed, ramming it down until hard. The arch should then stand firmly enough.

Remember the archway will have to withstand heavy winds at some time or other, so make sure the foundations are good and the whole thing rigid.

Tape Recording

MAGNETIC tape recording is cheaper and simpler than disc recording, due to the fact that the tape may be used repeatedly. Please provide me with details of a tape recording and reproducing unit and the mains operational details. (B.P.—Poole).

IN magnetic recording, the tape is drawn at regular speed past an electro-magnet. To do this, suitable drums with a gramophone or similar motor can be used, and it is essential the whole should run smoothly, as any vibration of the tape will be found to cause loud noises and variation in volume when reproducing. The tape must pass as close to the magnet pole as possible without touching. The magnet is fed from an amplifier capable of delivering several watts output; the

amplifier is operated from a microphone in the usual way.

To play back recorded material, the tape is re-wound on to the original drum, then wound past the magnet, as when recording. The magnet now provides the input to the amplifier, which operates a loudspeaker.

To wipe out recording to re-use tape, latter is wound past the magnet when a strong direct current is flowing continuously through the windings.

Enlarging Plans

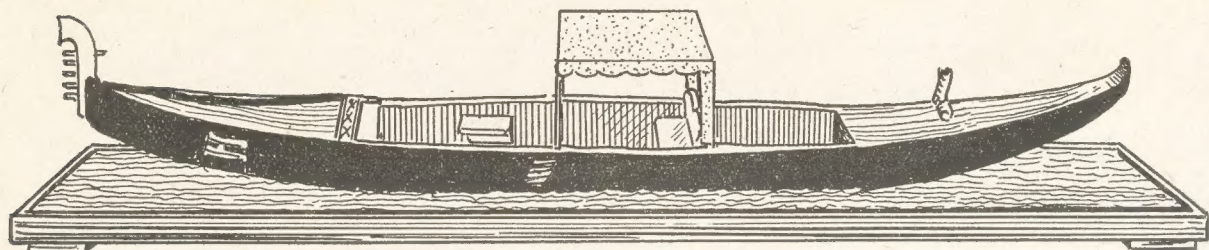
IHAVE some plans which are too small, and wish to double them accurately. Is there any drawing device which I could make which will help me? (W.K.—Tooting).

THERE are two methods by which you can enlarge the drawings you

require for the steam engine model. One is by means of a device called a pantograph. This is an instrument with movable arms, by which a mechanical enlargement is produced with a little practice. Details for making such an instrument appeared in our issue, dated 28th September, 1940, and a copy is available for 3d. post free.

The second method is by the squared paper process. Over the existing drawing you should mark out, say, ½in. squares in pencil; then on a larger sheet of paper, draw out squares 1in. across. By re-drawing the shape through these 1in. squares, watching carefully to get the same positions on the larger size, you should produce an accurate drawing double the original. You can frequently check up the accuracy with a pair of dividers, doubling up from the original to the enlargement.

A novel and attractive piece of work is this waterline MODEL GONDOLA



THIS small, but attractive model, would make an interesting addition to the miniature boat series. The Gondola, as most readers know, serves the same purpose in Venice as road transport vehicles here, and has traversed the canals for hundreds of years. It is a light and speedy little craft, propelled through the water at a rate remarkable considering the Gondolier uses but a single oar.

It cannot truthfully be said that it is a gay vessel in appearance, as the laws of Venice decreed many years ago that it should be painted black, but its history surrounds it with interest, and it is worth modelling.

A side view and half plan is given in Fig. 1. To commence, draw on a sheet of paper a rectangle, 11ins. long and $1\frac{1}{2}$ ins. wide. Divide this lengthwise into $\frac{1}{2}$ in. strips and mark off into 1in. divisions, as in the diagram.

Cutting the Sides

Now copy the full outline of the craft, and transfer this through carbon paper to a piece of $\frac{1}{8}$ in. fretwood, and saw carefully out. Take particular care in sawing the battleaxe prow to avoid breaking the delicate parts.

From the same pattern transfer the shaded portion of the craft to a piece of $\frac{3}{8}$ in. thick deal. Cut two of these. These pieces should, after cutting to shape, be trimmed to the plan outline, which is divided into 1in. divisions for easy copying. The rest of the shaping can then be carried out much the same as is done when modelling small craft.

The well, the size of which is shown in

Fig. 1 plan view, can then be sawn and chiselled out. Take notice here that the bottom of the vessel under the well must be kept quite flat. The front part of the top from the well to the prow is bevelled off. The detail sketch, Fig. 2, will help to show how the sides are shaped.

Framework

These two sides are now glued to the complete shape cut from the $\frac{1}{8}$ in. fretwood. Clamp together tightly with tape, and when the glue is quite hard, with a fretsaw saw away that part of the fretwood across the well that is not wanted. Finish the shaping with a file and glasspaper, working the forward half to a sharp edge at the prow and to a rounded section from the rear of the well to the stern.

The stern, it will be noted, curves upwards at its top, and needs shaping up with a round file to look effective. The narrow strip of fretwood sticking up above the deck from the well to prow, should be rounded off, giving a rib-like effect.

Decoration

At this particular part a decorative strip, or rather two separate strips, is glued, as in detail (A) Fig. 3. These strips are cut $\frac{3}{8}$ in. wide, from the $\frac{1}{8}$ in. fretwood, and glued in place, being mitred together neatly where they meet at the centre. A little carving is done to these with a file or penknife, as in the diagram, nothing elaborate being attempted, just

straight lines near the side edges, and crossed lines between, will suffice.

At this stage, cut the baseboard, shown at Fig. 4, from $\frac{1}{4}$ in. wood. Plywood or artificial board would suit quite well here, and save the more valuable fretwood for more important use. This baseboard has an edging of fretwood, $\frac{1}{2}$ in. wide, glued and pinned round it, making it a kind of shallow tray.

Fitting to Base

Place the boat on the board, exactly in the centre, and with a pencil run round the inside of the well and mark its shape on the board. Cut this shape out. Then glue the boat to the board, the well of the boat then extending through the board and deepening it a little. Cover the hole at the bottom with a piece of fretwood, as shown by the dotted outline in the diagram.

This part of the work can now be finished by gluing 1in. squares of fretwood to the underside of the baseboard, one near each corner, to serve as feet, the corners of the edging, by the way, should be neatly mitred to make a workmanlike joint. Give the whole work a good rubbing now with medium and fine glasspaper to make it smooth all over.

Now for the seat, on which the passengers recline. This is shown at (B). Cut the back of the seat to the shape shown, and trim it to fit in the well. The seat board is a piece of wood, $\frac{3}{8}$ in.

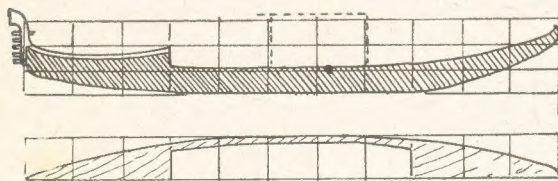


Fig. 1—Side view and half plan of deck

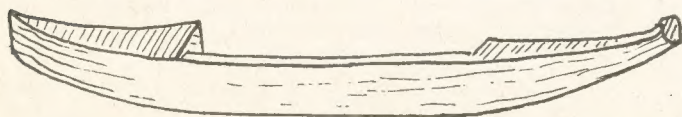


Fig. 2—Shaping of sides and decks

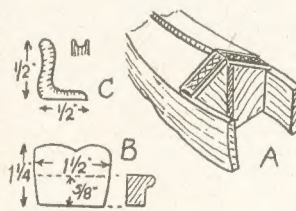


Fig. 3—Shape at the prow

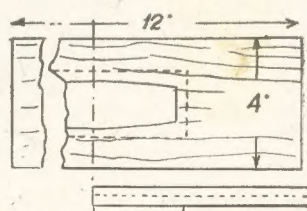


Fig. 4—Plan and side view of base

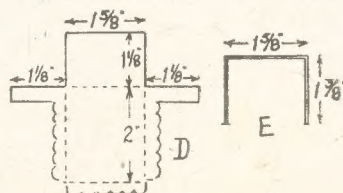


Fig. 5—Canopy details

section, shaped as seen in the diagram and trimmed to length to fit across the well. Glue this to the seat back, and glue the completed seat at about $4\frac{1}{2}$ ins. distance from the stern of the vessel.

Seat and Rowlock

In the actual craft, this seat is upholstered, and the reader who cares to make this model as true to prototype as possible, can make the seat more realistic in appearance by simulating the upholstery with some suitable material glued to it, for example a scrap of thin leather, or American cloth. The edges of the seat back and front edge of the seat board should be rounded off for this.

A kind of rowlock is to be added, in which the Gondolier places his oar for rowing. This is drawn at (C) and is cut from $\frac{1}{4}$ in. fretwood, and filed to a round section, except that part at the bottom which is fastened to the deck.

A notch is filed out at the top for the oar to work in, and the rowlock glued to the deck at approximately where shown in the general view of the boat. Painting and general finishing can now be undertaken.

The outside of the boat, except the battleaxe prow is painted black. The decks are left plain. The rest, including the decorative carved work on the foredeck, stained a light brown. The baseboard is painted, and the edging either painted or stained and varnished. A light brown would look well here, or black paint if the effect would not be

considered too sombre.

A canopy over the seat is provided, and this should be in some gay colour to impart a touch of liveliness to the model. The canopy supports are bent up from stiff wire to the shape shown at (E) in Fig. 5. They bridge the well, the lower ends entering in holes bored in the top edges of the sides of the boat, at 2 ins. apart.

The approximate position of these is shown by dotted outline in Fig. 1. The width, given at (E), must be considered approximate, it being best to measure the width across the boat to make sure. Press the supports securely in their holes.

Canopy Details

Approximate dimensions of the canopy are given at (D) in Fig. 5. Make a paper pattern of this and try it over the supports, noting any amendments that may be necessary in size, and allow a trifle extra for narrow hems. Lay the pattern on the material and cut out. If you can obtain the assistance of a lady friend, the scalloped edges of the canopy would look much better if over-stitched or buttonholed. Fix the canopy to its supports with a few stitches where needed.

The canopy should be stretched tightly over its supports, with the scalloped edges hanging over sides and front and the rear part of it covering the back of the seat. It should then look very nice and impart a pleasing effect to

the vessel. To add to the general effect, a touch of silver of aluminium paint, if you possess it, given to the battleaxe prow would be very effective.

Water Effect

Now cover the baseboard to a depth of $\frac{3}{8}$ in. with putty, worked to softness between the fingers. This should be pressed down to the baseboard, smoothed over, and then slightly rippled to imitate water. The rippling can be best effected with a rounded strip of wood or metal. A wave-like effect is not required, as the waters of the Venetian city are more like those of a river or canal, than sea.

Let the putty dry, this will take a few days, then paint the surface blue or green, as preferred, as a realistic finish. The edges of the baseboard are varnished, also the decks of the gondola. Pieces of the seat strip, similar to that used for the seat, without the backboard, can be glued inside the well, either side, seen in the general view.

Another seat strip could be added, just below the foredeck of the vessel, and opposite the passenger's seat. These need not be upholstered, but just stained to match the rest.

This completes the model, and should, if carefully made and finished, be a pleasing ornament or a valuable addition to a model series of craft. Beyond the small amount of fretwood needed, only scrap wood, etc., is required for the materials.

From the Craftsman's Notebook—

Butterflies and Buddleia

HOBBIES certainly help to make life interesting, so I was not surprised to learn that it was need for a hobby which started a mining engineer out in West Africa to collect butterflies and moths. His specimen case includes one with a 9 in. wing span.

Abounding with unusual and colourful insects, places like Africa are certainly ideal for such a hobby, though enthusiasts can find dozens of butterflies and scores of different moths for study here in England. Where I sometimes stay in the country I have only to turn on the light and at once large moths come gliding up and down the window pane.

Even though I do not collect them I like to identify different specimens and in fact have some coloured pictures to which I can refer when in doubt. The best place to see butterflies, I find, is on the buddleia in a corner of the garden. This, incidentally, is now 6 ft. or 7 ft. high, having grown from a mere twig planted one autumn. During the August weeks when buddleia is in flower it has a great attraction for butterflies, which cling to the purple flowers as though stupefied. One can watch them in one position for long enough.

There have been few winged visitors on the shrub this year, in contrast to last when they were so numerous. Unfortunately most of them were

common whites which I do not welcome to the garden in such numbers, but there were also several coloured specimens. Red Admirals were frequent visitors, and once or twice there was a Painted Lady.

* * *

Idea for a Stool-Box

A COMBINED stool and box I made Aincorporates an arrangement by which catches for holding the lid down and the need for a projecting handle are both dispensed with. The idea is also handy for other kinds of workbox which have to be carried about.

In the centre of the lid an oval piece was cut right out, making an opening just large enough to admit the fingers for lifting the box. Level with the top of the box inside, a piece of $\frac{1}{2}$ in. wood 2 in. or 3 in. wide was nailed across to each end, ample space still being left for putting in the brushes or whatever the box is intended to contain. Mid-way across this strip an oval piece was taken out to correspond with the hole in the lid.

When the lid is closed it thus falls on this strip of wood and the two openings come together. No catch is needed to hold the lid down, for the fingers pass right through both openings when carrying it and grasp the fixed cross-piece inside.

Nature by Night

TRAVELLING by cycle or car in the country after dark one gets a glimpse of the activity still going on in the animal world. While many beasts and birds are resting from their daytime exertions, others are on the roam in search of food, and their fleet movements are sometimes revealed for a few moments by the headlamps.

Several times I have seen a stoat streak across the highway in front of us and clear the opposite hedge with remarkable agility. Once a vole preceded us for hundreds of yards before scurrying through a hole in the bank. On a rare occasion I have seen a hare in the evening. It suddenly appeared in front of us, and my companion pulled up only just in time to avoid running it down.

Only a couple of yards away the hare stopped and remained motionless for a minute or more, as though mesmerised by the dazzling lamps. We could easily have 'bagged' it had we wished. At last the hare recovered its senses, and although it probably had no idea of direction in that glare, it managed to dart successfully out of the beam of light and disappear into the darkness again.

The Craftsman

Now is the time to get ready for the summer with TWO SIMPLE KITES

THE flying of kites is still an interesting pastime, and an additional pleasure is afforded by making them oneself. The materials are few and inexpensive, and the designs endless. For the subject of this article, two of the more simple patterns will be dealt with.

One important point to be remembered is balance, failing this the kite will be erratic in its flight, and in fact, may not fly at all. Balance is achieved by making each half alike on a framework sufficiently rigid. The wood for this framework must be light and straight grained, given these qualifications a selected piece of planed deal would serve as well as anything.

Simplest Style

Fig. 1 shows the simplest pattern of kite, but quite a good flying one if carefully made. For the framework use strips of the wood $\frac{1}{2}$ in. square. Cut these to the lengths given and rub off sharp edges with a light rub down with fine glasspaper. At the spot on the backbone, where the cross strip comes, cut a shallow notch, as at (A). This should not be deeper than $\frac{1}{16}$ in., or it may weaken the backbone of the kite.

Mark the exact centre of the cross strip and glue it in the backbone. Strengthen the joint with a wrapping of strong thread, as at (B). With some of the thread, tie at the top, then to each point of the framework, finishing off at the top again.

Get this thread fairly tight, but be most careful not to distort the framework in the least. If the thread is inclined to slip from the ends of the strips, just cut slight notches with a penknife into which the thread can sink, and be held in place.

Covering

For the covering, a thin but strong coloured tissue paper will do nicely. This should be cut symmetrical to fit the framework, both sides being alike. Then glue or paste the surface of the wood,

tube glue is the strongest, press the paper down and rub lightly. Cut the paper $\frac{3}{4}$ in. larger than the framework, to leave a hem, the hem being folded over the threads, and pasted down.

For the bridle line, bore fine holes through the backbone, one at 4 ins. from the top and the other 5 ins. from the bottom. Use a fine fretwork drill for these. The bridle line is a double length of thread, strong stuff or fine twine.

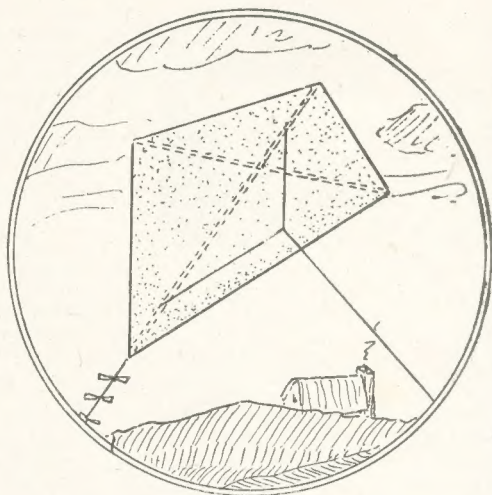
Make it about 3 ft. long, doubled, of course. For some 12 ins. of the middle, the doubled thread should be knotted to form a succession of loops, as at (D), in Fig. 2, so that the position of the kite line can be adjusted, as may be found necessary.

A simple gadget can be made for the looping job, shown at (C). It is just a piece of scrap wood, with two nails driven partly in, 1 in. apart. The threads are tied together, placed against the first nail and then tied again at the back of the second nail. This being repeated until the required length of line is looped. Twist the ends of the bridle line together, push through the holes in the backbone of the kite and there knot them to prevent them working out.

The Tail

For this design of kite a tail is necessary to further stability in the air. The tail is shown (partly) at (E), and for a kite of the dimensions given, should be about 12 ft. long. Strips of thin crêpe paper, at 9 in. distances apart, are tied to the thread of the tail, and the bottom finished with a small tuft of the paper.

A pattern of kite, called the 'Indian' is drawn at Fig. 3. As this style of kite requires no tail, but depends on a fin instead for stability, it should prove interesting, both to make and fly. The backbone is a length of similar section



wood to that used for the kite just dealt with, and about 20 ins. long. At 6 ins. from the top cut a notch, $\frac{1}{4}$ in. deep and $\frac{1}{2}$ in. wide, for the curved cross strip.

Cross Strip

This strip is a piece of cane, $\frac{1}{2}$ in. square section. It should be centred and be glued in the backbone, the joint being bound with thread, as before. Cut the paper to size given, and glue it to the backbone. Leave for a bit for the glue to harden and hold the paper alright, then bend the cane to the right and left corners, and fix there with narrow pieces of gummed tape.

The holes for the bridle line should be bored through the backbone at 3 ins. from the top, and 4 ins. up from the bottom, and the bridle line itself made from thread or fine twine, as advised for the previous kite.

The Fin

For the fin, cut a piece of stiff paper to the shape given, and glue to the kite, approximately where shown in the diagram. The curved cane should keep the paper quite taut, and help the flying qualities of the kite efficiently.

In place of the paper, it would be a good plan to try using a fine fabric, parachute silk, for example. In this case small pockets are made at each corner of the framework into which the ends of the stuff can enter. The fin can be of the stiff paper, as before, gummed or stitched to the fabric.

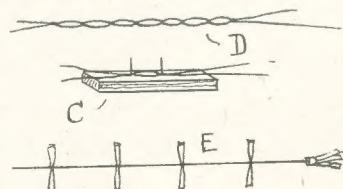


Fig. 2

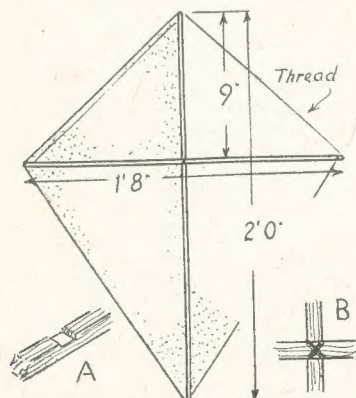


Fig. 1

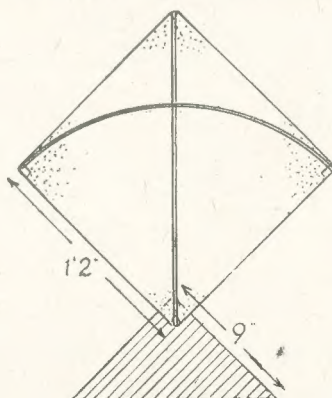


Fig. 3

Paper, feathers and stamps can be converted into simple CHILDREN'S NOVELTIES

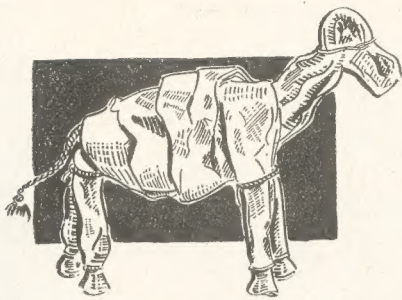


Fig. 5—The novel animal completed

CONSIDERABLE fun at practically no cost can be had by making weird 'animals' out of rolled-up newspapers. The curious creature shown at Fig. 5 might be something from prehistoric times. Here is how to make it.

Take a double-spread sheet of newspaper and roll it up, as shown in Fig. 1. Tie the ends, like a sausage. Then prepare another roll (Fig. 2).

Double up one roll and lay the other behind it as in Fig. 3. Wrap the 'arms' round the 'body', as in Fig. 4. You can now bend these arms . . . or is it legs? . . . down and tie them together, each pair, just under the body. This will prevent them spreading out. This string can be seen in Fig. 5, which also shows how the head is shaped by tying a string round.

By pressing and moulding the paper between your fingers, you can shape the body better. The legs will usually have

to be trimmed so that the model will be able to stand properly. This may mean that you will probably have to untie the string you first tied around the feet and, after trimming, retie.

When you are an expert at making these models you need not tie the ends of the paper rolls until the model is quite finished, but, at first, it is much more convenient to tie in the first place.

It is possible to get more accurate modelling by working up to the stage already described and then wrapping strips of crêpe paper of appropriate colour all round the model, so that the newspaper is hidden and the surface becomes smoother. Naturally, you will not forget a piece of string for the tail!

Feather Gliders

For the feather glider which you see illustrated at Fig. 6, you will need one large cork, two large feathers and two small feathers. Each pair of feathers should be alike in shape and size.

For the wings of the glider, stick the two large feathers into the front of the cork, at a slight upward angle, as seen in the sketch. Then stick in the two smaller tail feathers, taking care that they are at the same angle.

At the front of the glider put some sort of small weight. A hobnail or a cricket-boot spike would do very well.

The glider may now be launched. Usually one has to adjust the feathers before a smooth non-rolling flight is obtained, but this is all part of the fun.

A novel idea for using odd bits of plywood is the postage stamp jigsaw (Fig. 7). Most fellows, having some

foreign stamps in duplicate like to keep them for 'swap', but there are some stamps that are so common that they are left on our hands and we should be able to spare a few for a very interesting and novel jigsaw.

Stamp Jigsaws

A piece of plywood about the size of a postcard is obtained (larger, if you have more stamps to spare). First paste a piece of black paper over it and then paste the stamps on. As stamps are of all different sorts and sizes, it is hardly likely that they will all fit in exactly, but the idea of using a black background is so any gaps appear black.

Whilst the paste is drying, keep the board under pressure, to prevent it warping. On the reverse side of the board pencil out the jigsaw divisions and cut out, taking care to smooth off 'whiskers'.

Putting this jigsaw puzzle together is a good test of philatelic knowledge as, if we know our stamps, we can spot adjacent parts, quite unlike ordinary jigsaw puzzles.

In cutting out the parts it is best if the pieces are arranged to interlock, as in the piece shown separate in the lower right corner. It is much more convenient to assemble the puzzle if this is done. (125)

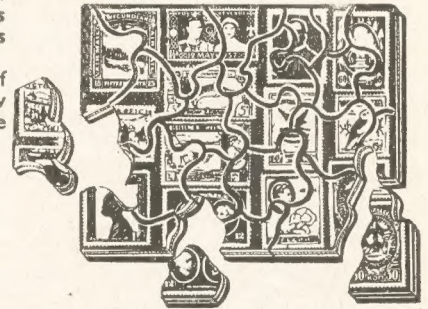


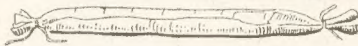
Fig. 7—A small jigsaw of stamps



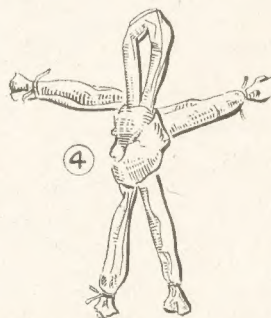
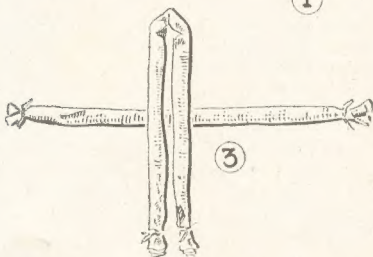
1



2



3



4

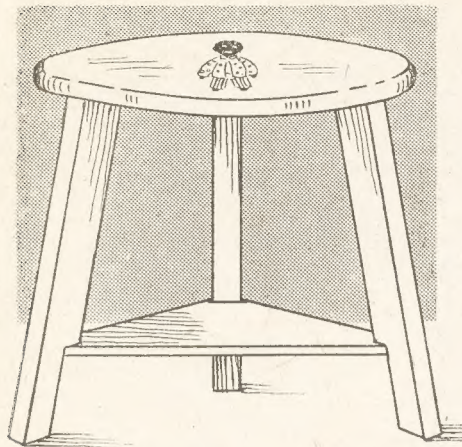
Details of how to roll and fold the paper figures



Fig. 6—A simple feather glider

An Index for Vol. 109, up to the end of March is obtainable for 1/- post free. Useful for reference or binding.

For fireside or garden you will find a use for A GAY LITTLE STOOL



THE stool shown here is easy to make and, with its gaily painted little golliwog or a suitable colour transfer or picture affixed, is sure to prove a popular favourite with any child. A plan and elevation are given and in these you will find the chief dimensions and the general lay-out of the work.

It will be seen from these views that the three legs are let into the top to a depth of $\frac{1}{2}$ in. and are notched out at the bottom to provide a fixing for the triangular brace that keeps the lower ends of the legs securely fixed in their correct position.

Making the Legs

The first job will be to make the legs. After the wood has been planed to thickness the shape of the legs should be marked out as shown in Fig. 1.

The angle at each end and the end of the notch should be carefully marked out with the aid of a bevel to get them all alike. It will simplify the work here if one leg is marked out first and then the three of them put side by side and the remaining two marked out from the

first one. This method will ensure all the legs being exactly the same length and that the stool will stand firmly when it is assembled.

The bevels on the ends of the legs can now be sawn. Then the notches are cut at the lower ends and the tenons $\frac{1}{8}$ in. long cut at the top. These operations are quite straightforward and should not need any further explanation.

The Top

The next job is to set out the circular top and the positions of the sinkings into which the ends of the legs fit, as shown in the plan view at Fig. 3.

If the circle is drawn and then the radius stepped round it carefully it will go exactly six times. Now join every other mark to the centre of the circle and you will have the centre lines for each of the three sinkings. These lines are shown in the plan.

The outer end of each sinking is 1 in. in from the edge of the circle and the length of the sinkings will be equal to the width of the tenon on the tops of the legs. A glance at the plan should make this part of the marking out clear. The sinkings are cut out by making a series of chisel cuts across the grain and then removing the waste wood by using the chisel with the bevelled edge underneath so it has a cutting action similar to a plane.

If you have a small router this can be used instead. Care must be taken to ensure all the sinkings being the same depth, otherwise the stool will not stand firm when it is assembled.

To complete the top, cut out the circle with a bow saw and finish off the edges with a spokeshave and glasspaper.

The triangular brace is the final part of the work

to be made and details of this are shown in Fig. 2. An odd piece of plywood will do admirably for this part but any piece of thin wood can be used instead.

An equilateral triangle with $7\frac{1}{2}$ in. sides should be set out with the aid of a compass and then the corners marked out as shown, to leave an end 1 in. wide where it will finally fit in the notch in the legs. This part can now be sawn to shape and the edges cleaned up with a plane.

Finishing Off

All the parts should now be cleaned up, glasspapered and fixed together. A $1\frac{1}{2}$ in. oval brad should be driven through the top and into the top of each leg, punched below the surface and the hole stopped up. The triangular brace is glued and screwed into the top edges of the notches from underneath so that the screw heads will not show.

When the glue has set the work should be given a final clean up and then two or three coats of paint or enamel. It will look best if done in a pastel shade of some colour, that will go with its surroundings. The light colour will thus form an excellent background for the painted design and throw up its bright colours.

The Design

The next stage is to draw out the golliwog design and, for the benefit of those readers who may not be very good at art, it is shown in Fig. 4 drawn

(Continued foot of page 89)



Suggested figure for top

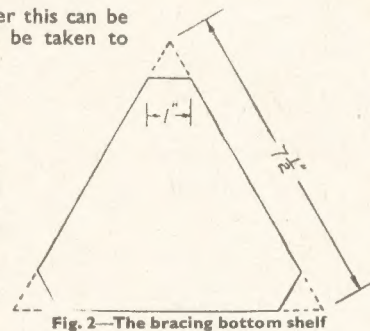


Fig. 2—The bracing bottom shelf

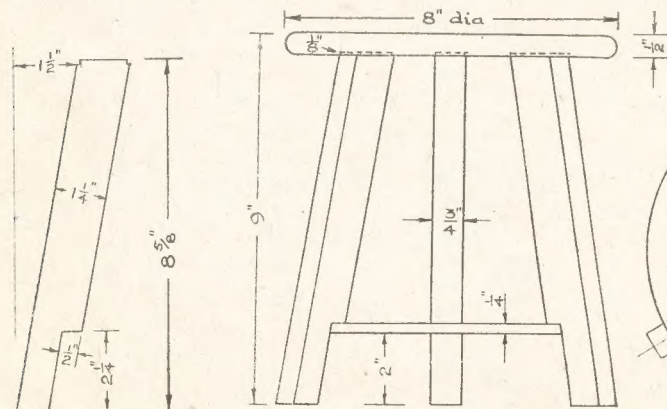


Fig. 1—Details of leg shape and elevation of table with legs in place

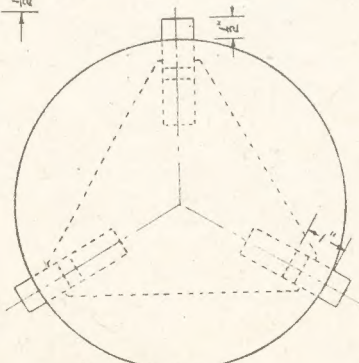


Fig. 3—Plan of top with legs and shelf dotted

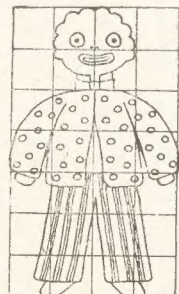


Fig. 4—Drawing of figure in squares for enlarging

Household hints which are useful to those undertaking PAPERHANGING

WALLPAPER which for years has been almost unobtainable, can now be bought more easily. Before the war most handy householders knew how to paperhang, but with the lapse of seven or eight years, these people have almost forgotten, and the younger generation who were but children in those far-off days, have never had the chance to show their skill.

With the shorter working week and the high cost of living, more people will want to do their own jobs about the house, and while these notes are not a full treatise on paperhanging, they do emphasise the points where the amateur is likely to trip up.

For instance, in dealing with paste, in the pre-war days it was general practice to make your own from flour, but this method is not now recommended, as the present-day flour cannot be relied on.

Preparing the Walls

If the walls have been previously papered, all the old paper should be stripped off. A good way of doing this is to dab or brush hot water on to the old paper, giving the whole surface three or four applications, starting at one corner and working round the room. When the paper is thoroughly soaked, it will peel off in sheets. If at the first attempt the paper does not leave the wall easily, it is much better to continue with the hot water treatment than try to pull the paper off in small pieces, a slow and tedious job.

A proper stripping tool can be bought for a few pence, but a bricklayer's float will do just as well. In fact, the writer found that by using one of these tools, it was much quicker.

If the walls are damp or very porous, they should be sized before repapering. This can be done by dissolving $\frac{1}{4}$ lb. of concentrated size to $\frac{1}{2}$ gallon of hot water and applying it to the walls with an old white-wash brush.

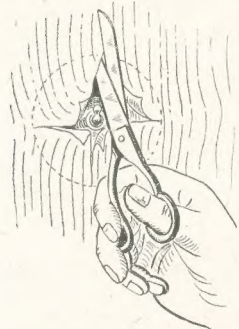


Fig. 2—Round a switch

The ceiling must be attended to before the papering is started, and if any painting is to be done, all but the finishing coat should be applied. When the last coat is put on after papering, do not paint right up to the paper, as this will cause it to run and spoil the whole job.

Amount of Paper Needed

English wallpaper is supplied in rolls

12yds. long and 22ins. wide, but it is advisable to reckon on only 11yds., as the ends are almost always damaged, and the width should be reckoned as 21ins., as 1in. is used up in trimming. If a piece of cardboard is cut 21ins. long, this can be used for measuring round the room.

The number of pieces and their length are added up in feet and divided by 33, giving the number of rolls required. If it is a patterned paper, at least half a roll extra should be added for a medium sized room, or, say, for every four or five rolls used.

If it is possible to get the paper machine-trimmed at the shop, it is much better, but if the job is done at home, care should be taken to cut off every trace of the dark edging line, this applies especially when dealing with light coloured papers. At the same time if it is a patterned paper, too much cut off will spoil the matching of the pattern.

Matching the Paper

Care should be taken when dealing with patterned papers, as it is very easy to make a mistake. The simplest way of tripping up is to measure one length of paper and cut the other lengths to it. This is alright when the lengths cut off make up so many complete patterns, but if the lengths are, say, $4\frac{1}{2}$ patterns, half a pattern will have to be cut off each time to make the lengths match up.

Another point when dealing with patterned papers, try to start at the picture rail with a complete pattern, this will add greatly to the appearance of the finished job.

Where to Start

Where to start is very important; it has a direct bearing on the visibility of the joints. First stand in the doorway and then in the middle of the room and observe the source of light. If the overlap on the paper is made away from the light it will throw a shadow and show clearly the position of the joints.

Therefore, start near the window and work towards the door, as shown in Fig. 1. When butt jointing the paper this does not matter, but it is not advisable to try butt jointing unless the paper has been machine trimmed and the operator has had some experience.

The Paste

The success or failure of the whole job can depend on the paste. Do not start the job until you are perfectly sure the paste is alright. The best plan is to buy a well known brand of paste powder and follow the instructions very carefully. Most powders are first mixed in a drop of

cold water, and it is this first mixing that is very important.

It is a good idea to finish this preliminary mixing with great care, ensuring that the smallest lumps are broken up, as these lumps will increase in size when the boiling water is added. It is important that the correct amount of boiling water is added. If the paper is very thin, slightly more water than is

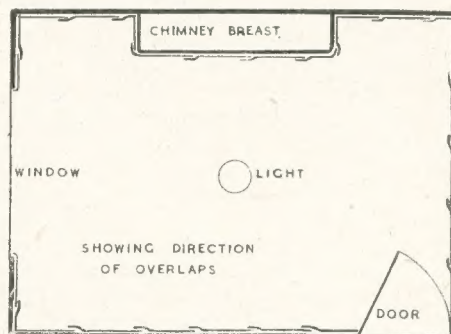


Fig. 1—A diagram showing direction of operations

given in the directions can be added, and for thick papers, slightly less. It should be remembered that the paste thickens considerably as it cools off.

For medium thick paper the paste should be about the consistency of cream. If the paste is too thick, it can be thinned down by re-boiling and adding more boiling water. Do not start the job until you are perfectly satisfied that the paste is right. Too thin a paste will cause the paper to leave the wall in patches, and too thick a paste will leave unsightly lumps under the paper.

Pasting and Hanging

Not many amateurs possess a pasting board, and to use the polished table will be asking for trouble. Quite a good job can be done by using the floor. Sweep the floor and lay down sufficient newspaper to take one full length of paper. Cut off a length of paper, leaving it several inches longer than the wall measurement and lay it on the newspaper face downwards. Place the bowl of paste in a convenient position and have the pasting brush handy.

Have handy also a paperhanger's brush, a pair of scissors and a piece of soft cloth. Apply the paste evenly, making sure to cover the whole surface. Do not draw the brush inwards over the edges, as this will cause paste to collect on the underside. One fold about a third of the length from the bottom will be sufficient, unless one is skilled too much folding will get paste on the wrong side. If the paper is thick, allow it to stand about two minutes before hanging.

Offer the paper to the wall, holding

(Continued foot of page 90)

Decorative plates for book-ends or letter rack made by METAL ETCHING



Fig. 1—The plate on a simple book stand

HERE is a very interesting and effective method of decoration, and one that will be quite new to many Hobbies readers and workers. For such articles as book-ends, book stands, letter pockets, letter racks, and a host more that will suggest themselves to the reader, the art of etching on brass or copper can be practised, just as is shown in the two examples given here.

The method is simply this. A sheet of the metal is obtained of the right thickness—about No. 16 gauge, and cut to the required size. The edges are smoothed off with the file. The face should be polished with a piece of fine emery cloth and the design to be etched on the metal laid out ready to be transferred to the surface by means of carbon paper.

Some ordinary black grate enamel may be used; if it is too thick, thin it with turpentine or a turpentine substitute.

Acid Action

All the main surfaces of the pattern of each panel shown on the pattern in cover three of this issue, will be very slightly sunk by the action of the acid which will later be applied. The lines of the design will stand up and it will be these lines, therefore, which will be covered with the asphaltum or enamel.

Stool—(Continued from page 87)

out in $\frac{1}{4}$ in. squares. If a larger figure is preferred the squares can be made a little bigger and the diagram copied in exactly the same way.

Design

It is best to draw the design out on a piece of paper first and then, when you are satisfied with it, transfer it on to the wood with the aid of a piece of carbon paper. Or, of course, you can put down

Another method of etching the surface, and one which gets, perhaps, a more effective picture, is to coat the plates with wax all over and then draw on the design with a needle point, hatching in certain surfaces just as seen in the picture of the book end at Fig. 1. The metal plate is immersed in a nitric acid and water solution of about two to one, using a photographer's flat tray.

If the etching or action of the acid proceeds too violently, add a little water to it. After an hour or so of the action, remove the plate with kerosene and wash thoroughly with soap

and water.

If the first method has been adopted, then a colourful effect is obtained by painting in with a good enamel all the sunken surfaces. In fact the enamel could almost be floated between the raised lines. Appropriate colours should be chosen.

If the worker is going in seriously for etching and, perhaps, making it a paying pastime, we advise him to get a cheap treatise on the art of etching. He will find the work most interesting.

Book Holder

Now to describe the two articles shown in Fig. 2. Both these are highly suitable for the mounting of etched and

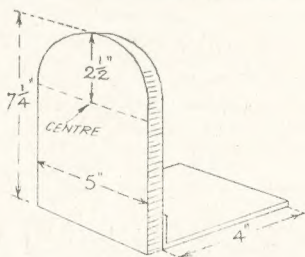


Fig. 2—The book-end and base

enamelled plates such as given full-size in this issue. For the book-end, a piece of $\frac{3}{8}$ in. or $\frac{1}{2}$ in. hardwood should be cut to the outline given. A coarse fretsaw is

used, as this will hold the line well during cutting. The work can also be done more quickly than if a finer saw were used. The edges must be carefully glasspapered and the true semi-circle not lost in the cleaning and papering.

Each upright has a metal plate attached by countersunk screws. The turned edge for attachment is a true right angle by being bent over the jaws of a vice and hammered to make a neat finish. The full-size brass plate for mounting on each upright is given on the pattern sheet with the position of the holes for screwing on. The edges of the brass plates must be filed off and made smooth before attaching.

It should be best to coat the etched brass plates with a uniform coating of lacquer to preserve the finish.

Letter Rack

The letter rack design is of very simple outline and construction. It could be made entirely from $\frac{1}{4}$ in. wood, with, perhaps, a base of $\frac{3}{8}$ in. wood to make a stiffer job. We give a full-size outline of the front and the back of the rack on the pattern sheet, and these can be transferred to the wood by means of carbon paper.

Cut the base to the size given, and $\frac{1}{4}$ in. or so in from the front edge of it, draw the mortise as shown. The length of the mortise should be checked from the tenon (A) on the front, before it is actually cut.

The decorative 'Kingfisher' plate of this rack and of the book stand should be screwed to the face of the wood after it has been stained and polished or oiled,

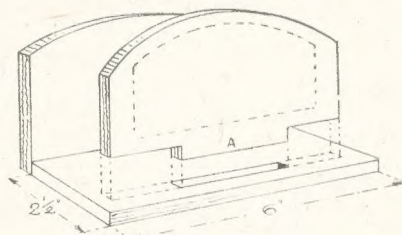


Fig. 3—How the letter rack is built

whichever finish is applied. Note in Fig. 3 that the back upright of the letter rack is screwed to the back of the base to make a very secure fixing.

one of the gay transfer pictures.

Painting

The colours for this part of the work should be as bright as possible apart from the black for the face, hands and feet. Those suggested are scarlet for the mouth and for the coat (leaving spots where the undercoating will show through), white trousers with blue stripes, and white for the collar and

teeth, and yellow for the bow and shirt.

An ordinary artist's paint brush, about No. 7, can be used for applying the colours and, when painting the figure, one colour should be allowed to dry thoroughly before an adjacent one is applied. The brush can be cleaned out in turps or paraffin when one colour has been finished with.

Or you may like to glue on a colour picture and varnish over it.

Economy and longer life ensured by proper use of PAINT BRUSHES

DURING early summer most handymen do a little house painting and make acquaintance once more with that most useful article—the paint brush. Despite the value of this friend of ours there is, perhaps, no 'tool' that is often more ill-used when no longer in immediate requirement than the paint brush, and no tool that has to be so frequently replaced. Actually, brushes correctly looked after should last almost a life time.

Let us see, therefore, how they should be treated. In the first place, always buy the best brush you can afford, and also the correct one for the job in hand. Brushes are a big price at the moment but even so a dearer brush is the better investment, for it will give a finer finish to the work and yield years of service.

Indeed, the older it grows within reason the better it will work. With paint brushes the adage that 'new brooms sweep clean' is not altogether correct, for brushes of this kind do nicer work after they have been used for some time—the bristles then lying more evenly and producing a smoother surface.

Hair or Fibre

With brushes now-a-days one has largely to take what can be got, but normally there is the choice of animal hair or fibre. If you see the stamp 'Pure Bristle' it means that only the hair of the pig or boar has been used. You can tell if a brush is bristle or fibre by holding a single 'hair' in a flame. If a charred knob comes on the end it is bristle. Should it burn away to an ash you are dealing with fibre.

There are a large number of types of brushes on the market from the small $\frac{1}{2}$ in. to the wide 'white-wash brush'; there are also flat and round varieties. For the home handyman, flat brushes are

the best, and it is good to collect a set of several widths as, say, 1 in., 2 ins. and 3 ins.

Another reason for obtaining fairly expensive brushes is that they always contain a greater weight of hair and so hold more paint at a time—a factor which quickens the job and in itself reduces the danger of brush marks.

The first thing to do when you have got a new brush is to ease up the hair. This is done by working it up and down in the palm of the hand as though painting. This action also shakes out any dust that may have collected and removes loose strands.

Soak before Use

If set in wood the brush should now be soaked for an hour or so in cold water, as this will swell the 'stock' (the handle) and cause the hairs to be gripped tightly. Many persons use a new brush right away and then are surprised when it at once begins to shed bristles. The soaking would have prevented this. Brushes in which the hairs are held in a rubber solution do not need this treatment. After the soaking, shake well and again rub on the palm and work can start.

To put the first lot of paint on, dip in the brush for about three-quarters of the length and then press out on the side of the pot. Repeat this several times and work the brush on an old board to get the paint well to the centre.

You can now get on with the job, but even so a new brush should never be used for a first coat, as even the best to start with are fairly stiff and leave brush marks to say nothing of the early tendency to shed a few hairs.

Also after use the ends of the bristles wear slightly into a good shape which makes them cling together and lay on the paint better. In the trade a brush that has reached the good condition is spoken of as being 'worn in'.

The most important thing in the preservation of brushes is naturally, the

storage in between jobs. Despite the recommendation, brushes should never be wiped out and left dry, but should be stored in a 'keeper'. The 'keeper' is a container of water in which the brushes are suspended and the best way of suspending is to bore a hole in the stock of each and run a wire through.

As much paint as possible must be pressed after use from a brush, but it is never possible to clear the top entirely where the bristles enter the stock. With any dry storing this always in time hardens and so causes brush marks on the next piece of work. With a 'water keeper' the top always remains pliant.

Even if it only means that you will not be requiring a brush for a few hours, scrape it out and place in the 'keeper'. Left standing in the paint, while certainly keeping it soft, will bend the bristles. If storing for many months, keep an eye on the water in the keeper, as it evaporates in the course of time.

Cleaning and Keeping

Brushes that have been used for enamel work should have a solution of half turpentine and half linseed oil in the keeper in place of water, as enamel paints will harden under water. Never store enamel brushes in turpentine alone, or they will become a gummy mass.

A keeper for varnish brushes also should contain linseed oil and turpentine. When taking a brush from the keeper, scrape out the oil and work up with a little of the new paint, say, in a tin lid, and it is then ready for use.

'White-wash' (distemper) brushes should be well washed out with soapy water after use and hung bristle down in some cool dry place—and, incidentally, where mice will not get at them. Sometimes it is necessary to change a brush over from one paint to another, and this can be done satisfactorily by well washing in turpentine.

Paperhanging—(Continued from page 88)

each side with the thumb and forefinger about 1 in. from the top and keeping it parallel with the corner. Fix it about $\frac{1}{2}$ in. over the picture rail. Take one sweep upwards with the paperhanger's brush, keeping to the centre of the paper, then unfold and brush down the centre of the paper to the skirting board.

Next brush outwards from the centre, and from top to bottom. Draw the back of the scissors along the picture rail and the skirting, marking the correct length of the paper. Pull the paper away at the top and bottom and trim to length. Finish by brushing from top to bottom, first down the centre and then from the centre to the edges.

If fresh newspaper is laid down before pasting the next piece there will be no risk whatsoever of the paste getting on the wrong side. Offer the second

length, resting the forefingers on the wall while the eye is cast down the joint.

Adjust this to give about $\frac{1}{4}$ in. overlap, and finish off as with the first piece. Do not play too much on the joints. Extra pressure will squeeze out the paste and smear the pattern, and if it is raised paper, the extra pressure will flatten it out and make the joint plainly visible. If for some reason the joint opens, very careful dabbing with a soft cloth will put matters right.

Some amateurs make a joint at each corner, and this is a good idea, because if the corner is out of square, creasing will occur. To make the joint in the corner may mean cutting down the whole length, and for the amateur this is best done before pasting. Measure to the corner, then fold the length to the

measurement and draw a carving knife down the fold. It sometimes pays to cut down the length when dealing with the chimney breast, as these corners are invariably out of square.

If a raised light switch comes in the middle of a length, hang the piece as usual, brushing the top half. Next, pierce the paper with the scissors at the centre of the switch and then cut across as shown in Fig. 2. The paper can then be pressed round the switch with the back of the scissors, thus marking it for trimming.

If the paper is accidentally cut short, either round the switch, or at the picture rail or skirting, pull the paper away from the wall, fit a piece of pasted paper, then brush back the main piece into position.

HOBBIES in PICTURES



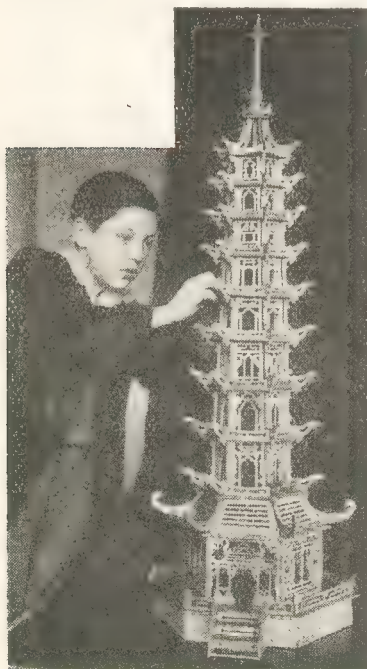
THERE is such a thing as being too good at one's work (or rather hobby) and Charles Wilkin, last war Gunner Sub-Lieutenant, has found it out. In his car park manager's office at Southend-on-Sea he makes many fine models of sailing ships. His finest work, the barque 'Pamir' was so well made that burglars broke in—and the 'Pamir' sailed away. The 'Pamir' is very like the 'Cuddy Sark,' the famous tea clipper of which so many models are made from our design and kit of materials.



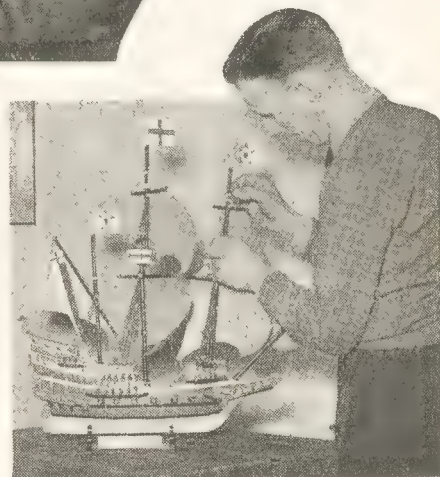
A CINEMA with the lid off! Brian Marshall, 13-year-old schoolboy, of Chasefield Road, Tooting, S.W., with a 4ft. long, scale model of the Granada Cinema, Tooting, which has taken him a year to make. Brian's shilling-a-week pocket money for the past 12 months has all gone to buy balsa wood, cardboard and glue for the model. He took his measurements for it in the empty cinema on Saturday mornings after his friends had gone home from the children's club matinees, and worked on it at home after finishing his homework every evening.



ANOTHER idea for a use of model boats. This one is a replica of a two-masted brig such as formerly sailed from Wells-next-Sea, Norfolk, and is one of a collection in the Parish Church, being accumulated as representing the maritime activity of that old port. The Rector, formerly Merchant Navy, is naturally keen.



HOW'S this for a piece of fretwork? No wonder the young man is proud of it—and of the fact he didn't break one piece in putting it together! He is Albert Wilson of 23 Parliament Street, Burnley, Lancs., who had only been doing the work just over three months. Of course, he used a Hobbies Fretmachine and completed the whole thing in a month. Parts are all glued—no nails being used.



ANOTHER ancient ship, but of quite a different type. Note the bright colours of the famous 'Golden Hind,' compared with the drab work-a-day appearance of the trading brig. This model was made by Alexander Walters of Lamond Drive, Edinburgh, whose next effort is Captain Scott's famous exploration ship 'Discovery.'

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Simple home-made apparatus helps immensely in SOME GARDEN GAMES

THE nice weather is here again and once more the attractive grass of the lawn draws us out-of-doors into the garden. There is nothing more pleasant than a game in the open, and here are several that the home craftsman can fix up quickly to entertain the family—as well as enjoying them himself.

Ring games are always very popular, so first let us fix up a simple one of this type. Here we require a block of heavy wood 8ins. by 8ins. and about 2½ins. deep, a light rod 2ft. long and some lengths of stiff rope each of 18ins. For the rod part of a discarded broom stave will do quite well.

Rope Rings

Cut a hole in the middle of the heavy block and fit in the rod, thus giving a solid upright as shown. Also make some half-dozen rings with the rope, of approximately 6ins. diameter. To make these really neatly the ends of the rope should be teased out a little, then interlaced by pushing the strands into one another with something blunt like a nail. The joint is finally bound tightly with strong thread or string of the kite-cotton variety.

With rope of sufficient stiffness it will be found that the rings retain their circular shape—which is, of course, what

final score set according to the time the players have at their disposal. Players take alternate throws.

Miniature Golf

'Castle Golf' can be fun, too. Here we must shape six rough castle fronts with a peaked archway in the middle, as shown in Fig. 2. Quite thin plywood can be used. The 'finish' here is, perhaps, the most important part. Give each shape a coat of grey paint and then boldly line in stone work, also supply each with a number in some contrasting colour. All this does not take long and the effect it will be found is good.

Complete each castle with a triangular back leg, made by a triangle of wood held by a hinge so that it will turn in for storing purposes. The gateway in each case must, of course, be big enough to take a standard golf ball.

The 'castles' are set out in a roughly circular path and the game is to go round the course in the smallest number of shots possible, using a usual golf club and ball, 'putting' strokes, of course, only being employed. The ball must be sent through the doorway of each castle in correct order.

How to Play

In 'Castle Golf' contestants play alternately, even though in the course of

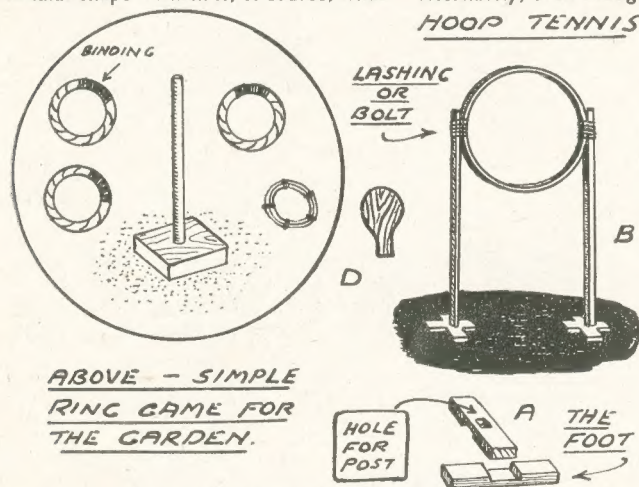
still be bought for children) and two simple uprights made by the two crosspieces (A) to act as a base. The upright (B) should be about 4ft. tall. The hoop is attached near the top as indicated with simple lashings which can be unfastened when putting the game away—or small bolts could be used. This completes the equipment.

If a child's hoop cannot be obtained, a circle can be made with a pliant cutting from, say, a willow tree. Or if you are very hard put to it for a ring, a metal hoop from a barrel will do as a last extremity. A ring of wood is infinitely better, however.

With Tennis Racquets

Play is with tennis racquets and a medium soft ball. If racquets cannot be obtained, simple ones can be shaped from flat pieces of wood as (D). Contestants stand to start with at an equal distance either side of the hoop and pass the ball backwards and forwards. Each time a player gets the ball through the hoop he scores one point. Twelve points make a game.

Have a strong piece of cord with each game. When putting the parts away, tie the sections tightly together. There is nothing more irritating than to suggest a game and then not be able to start because this or that part cannot be found.



ABOVE - SIMPLE
RING GAME FOR
THE GARDEN.

Two simple but enjoyable games described



The stand wanted for 'Castle Golf'

is wanted. To give a nice appearance, colour both wood and rings brightly. Dye is best for the latter. If only thin rope is available, use two coils and then bind at intervals all round.

To play, the upright is set a distance away from a base line, varying according to the skill of the players. 10ft. is a good average range—and the aim is to get the rings over the upright in hoopla fashion. A point is scored for each success and a

the game the balls become well separated. The appearance of 'the course' is improved with cards on stakes showing the number at each castle, and these are quite worth making to go with the equipment.

Hoop Tennis

Hoop tennis is another easily rigged-up and interesting garden game. Here we require an ordinary cane hoop (as can

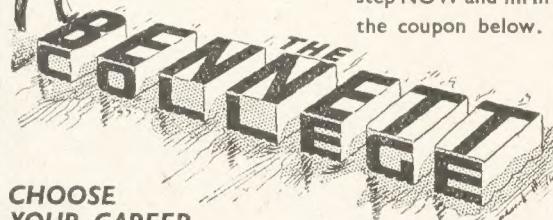
The art of a garden game is to be able to suggest and have it under way within minutes. Interest always seem to wane when people have to hang about waiting.

One final point about garden games—keep layouts 'tight' and compact. The general idea of such is gentle but skilful strokes and throws, rather than hard 'slogging', but this is invited if everything is too widely spaced. Keep everything, therefore, within reasonable distance.

Look out for another Article on making a Canoe

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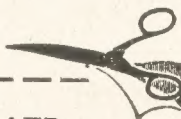
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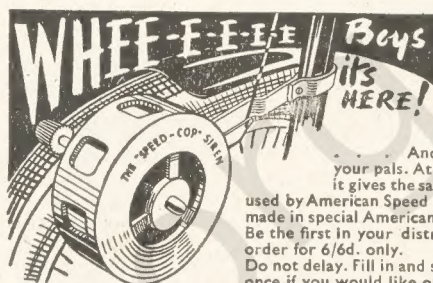
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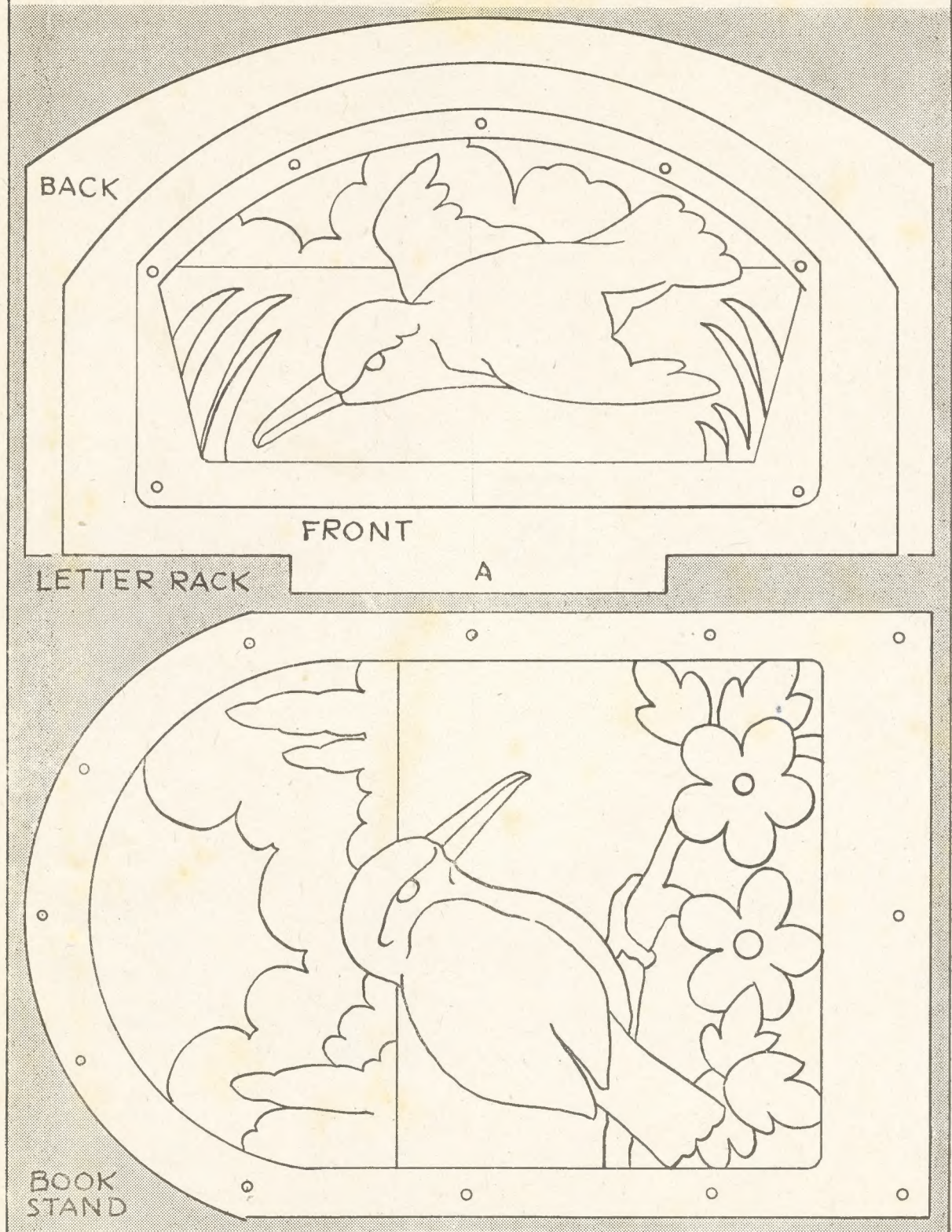
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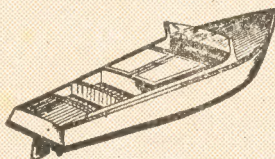
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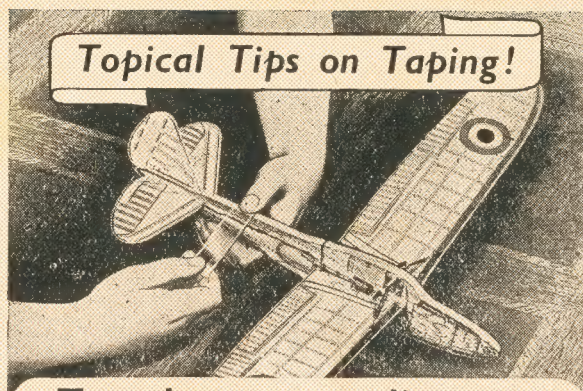
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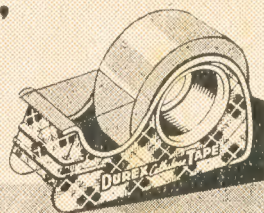


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